CLAIMS

1. A peptide comprising an A chain and a B chain,wherein the A chain comprises a sequence set forth in SEQ ID NO:1, wherein the B chain comprises a sequence set forth in SEQ ID NO:30, and wherein:

X_{A2} = Ile; X_{A3} = Val; X_{A4} = Glu; X_{A5} = Gln; X_{A6} = Cys, X_{A7} = Cys; X_{A8} = His; X_{A9} = Arg;

X_{A10} = Ile; X_{A11} = Cys; X_{A12} = Ser, X_{A13} = Leu; X_{A14} = Tyr; X_{A15} = Gln; X_{A16} = Leu; X_{A17} = Glu;

X_{A18} = Asn; X_{A19} = Tyr; X_{A20} = Cys, X_{A21} = Asn, Pro, His, Ser, Gly, Ala, or is absent; and X_{A22} to X_{A34} = absent.

2. The peptide of claim 1, wherein the A chain has the sequence GIVEQCCHRICSLYQLENYCG (SEQ ID NO:58).

3. The peptide of claim 1, wherein the A chain has the sequence GIVEQCCHRICSLYQLENYCG (SEQ ID NO: 58) and the B chain has the sequence FVNQHLCGSELVEALYLVCYER (SEQ ID NO:30).

4. The peptide of claim 3, wherein the A chain and B chain are bonded via at least one disulfide bond.

5. The peptide of claim 4, wherein the A chain and B chain are bonded via at least 2 disulfide bonds.

6. The peptide of claim 5, wherein the A chain and B chain are bonded via at least 3 disulfide bonds.

7. The peptide of claim 6, wherein the at least 2 disulfide bonds are between the first Cys and the third Cys in the A chain, or between the second Cys in the A chain and the first Cys in the B chain, or between the fourth Cys in the A chain and the second Cys in the B chain.

8. The peptide of claim 7, wherein there are disulfide bonds between the first Cys and the third Cys in the A chain, between the second Cys in the A chain and the first Cys in the B chain, and between the fourth Cys in the A chain and the second Cys in the B chain.

9. The peptide of claim 8, wherein the peptide is a monomer.

10. The peptide of claim 1, wherein the peptide is a des-octapeptide insulin.

11. The peptide of claim 1, wherein:

(a) the peptide has an IC_{50} against the human IR-B receptor of less than 10^{-6} M; and/or

(b) at least 75% of the peptide is monomeric in solution; and/or

(c) the peptide has increased bioavailability when administered to a human when compared to human insulin; and/or

(d) the peptide has a peak bioavailability within 0.5 to 3 hours of administration to a human; and/or

(e) the peptide has an onset of activity within 10 minutes of administration; and/or

(f) the peptide does not bind human IGF-IR or binds human IGF-IR weakly; and/or

(g) the peptide has an affinity (Kct) for human IGF-IR of weaker than 100 nM.

12. A pharmaceutical composition comprising the peptide of claim 1 and a pharmaceutically acceptable carrier.